Structure and Diversity of Dung Beetles Communities (Coleoptera: Scarabaeoidea) in Southern Larzac (France).

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Introduction: The ecosystems of Southern Larzac (France) have experienced an evolution of pastoral practices which progressively led to a change of landscape structure. With the disappearance of transhumance and the decrease of grazing, the landscape tends to close up and it ancestral equilibrium is changed. Thus, the role of dung beetles (Coleoptera: Scarabaeoidea) and the organization of their communities are strongly modified. The aim of this work is to analyse the structure of these communities and their diversity according to this global evolution.

Methods: The study was carried out during the year 2005. The insects were collected with attractive baited pitfall traps in six sites during four periods of the year. The Motomura model was used to analyse the diversity and the organization of communities. The distribution of the main species was described with correspondence analysis taking into account climatic parameters and pastoral practices.

Results: 4582 insects were collected. The study of the communities showed a wide range of 46 species belonging to four families (Aphodiidae, Scarabaeidae, Geotrupidae, Trogidae). The functional groups differed depending on the seasons, the pedoclimatic characteristics and their breeding requirements.

Conclusion: These preliminary results on the seasonal and spatial structure of the populations of dung beetles highlight the significant role of dung beetle communities in Larzac ecosystems. From a Biological Conservation point of view, our results can help to take decisions for a sustainable management of these ecosystems.

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